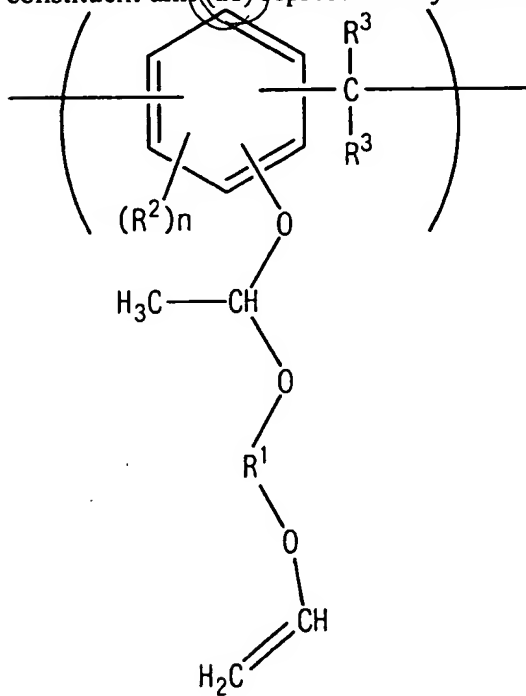


# LISTING OF THE CLAIMS

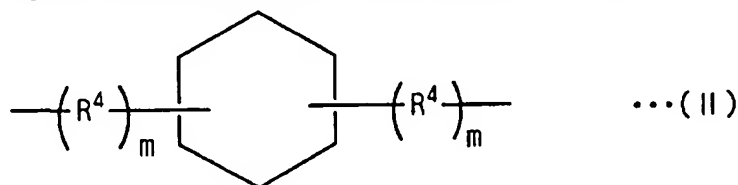
No Claims are currently amended

1. (Original) A chemical amplification type positive photoresist composition prepared by dissolving:

(A) a slightly alkali-soluble or alkali-insoluble novolak resin having a property that solubility in an aqueous alkali solution is enhanced in the presence of an acid, comprising either or both of a constituent unit (a1) represented by the following general formula (I):

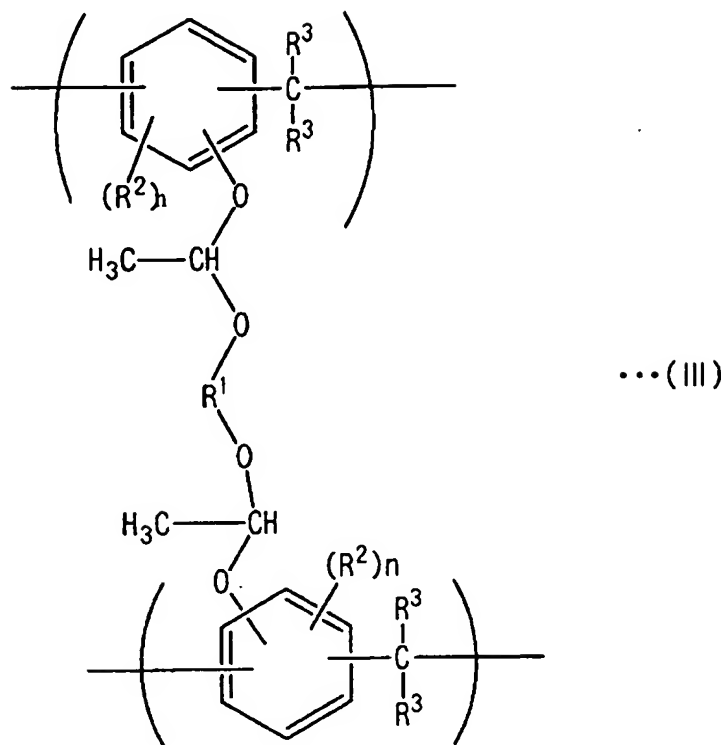


wherein R<sup>1</sup> represents either an alkylene group having 1 to 10 carbon atoms which may have a substituent or a group represented by the following general formula (II):



(wherein R<sup>4</sup> represents an alkylene group having 1 to 10 carbon atoms which may have a substituent and m represents 0 or 1), the alkylene group may have an oxygen bond (ether bond) in the main chain, R<sup>2</sup> and R<sup>3</sup> each independently represents a hydrogen atom or an alkyl group having 1 to 3 carbon atoms, and n represents an integer of 1 to 3, and an intermolecular crosslinked moiety (a2) represented by the following general formula (III):

Appl. No. : 10/522,036  
 Filed : January 19, 2005



wherein  $R^1$  represents either an alkylene group having 1 to 10 carbon atoms which may have a substituent or a group represented by the above general formula (II) (wherein  $R^4$  represents an alkylene group having 1 to 10 carbon atoms which may have a substituent and  $m$  represents 0 or 1), the alkylene group may have an oxygen bond (ether bond) in the main chain,  $R^2$  and  $R^3$  each independently represents hydrogen atom or alkyl group having 1 to 3 carbon atoms, and  $n$  represents an integer of 1 to 3; and

(B) a compound generating an acid under irradiation with radiation, in an organic solvent, wherein the content of an acid component is 10 ppm or less.

2. (Original) A chemical amplification type positive photoresist composition prepared by dissolving:

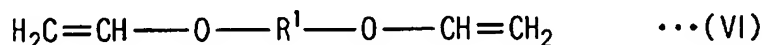
(A') an slightly alkali-soluble or alkali-insoluble polyhydroxystyrenic resin having a property that solubility in an aqueous alkali solution is enhanced in the presence of an acid, comprising either

7. (Original) The chemical amplification type positive photoresist composition according to any one of claims 1 to 3, which comprises  $\gamma$ -butyrolactone.

8. (Original) The chemical amplification type positive photoresist composition according to any one of claims 1 to 3, which is used for a thick-film photolithography process used for forming a resist film having a thickness of about 2 to 7  $\mu\text{m}$ .

9. (Original) The chemical amplification type positive photoresist composition according to claim 8, wherein the thick-film photolithography process is used for forming a resist pattern for implantation.

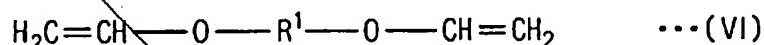
10. (Original) A method for synthesis of the component (A) of claim 1, which comprises reacting a novolak resin with a crosslinking agent represented by the following general formula



(VI):

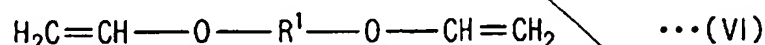
wherein  $\text{R}^1$  represents either an alkylene group having 1 to 10 carbon atoms which may have a substituent or a group represented by the above general formula (II) (wherein  $\text{R}^4$  represents an alkylene group having 1 to 10 carbon atoms which may have a substituent and  $m$  represents 0 or 1, and the alkylene group may have an oxygen bond (ether bond) in the main chain, in the substantial absence of an acid catalyst.

11. (Original) A method for synthesis of the component (A') of claim 2, which comprises reacting a hydroxystyrenic resin with a crosslinking agent represented by the following general formula (VI):



wherein  $\text{R}^1$  represents either an alkylene group having 1 to 10 carbon atoms which may have a substituent or a group represented by the above general formula (II) (wherein  $\text{R}^4$  represents an alkylene group having 1 to 10 carbon atoms which may have a substituent and  $m$  represents 0 or 1, and the alkylene group may have an oxygen bond (ether bond) in the main chain, in the presence of an acid catalyst.

12. (Original) A method for synthesis of the component (A'') of claim 3, which comprises reacting a hydroxystyrenic resin with a crosslinking agent represented by the following general formula (VI):



wherein  $\text{R}^1$  represents either an alkylene group having 1 to 10 carbon atoms which may have a substituent or a group represented by the above general formula (II) (wherein  $\text{R}^4$  represents an alkylene group having 1 to 10 carbon atoms which may have a substituent and  $m$  represents 0 or 1, and the alkylene group may have an oxygen bond (ether bond) in the main chain, in the presence of an acid catalyst.